

- Voltaic forces, of wires in, 276;  
 elementary, 183  
 Voltaic pile, 165;  
 action of elements  
 of, 195, 196;  
 chemical theory of  
 origin, 179, 180, 181,  
 184, 185, 190,  
**-33**; 302; contact  
 theory of origin,  
 232, 234, 243, 244,  
 253, 257, 263,  
 281, 288, 294, 308,  
 312; elec-  
 tricity of, 170, 172,  
 183; excite-  
 ment dependent on  
 chemical  
 action, 304; exciting  
 acids and  
 alkalies employed in,  
 188, 191;  
 oxidation as source  
 of electric  
 current, 185, 190;  
 place and care
- Water, as electric  
 pole, 61, 74, Si;  
 as electrolyte,  
 113; determined  
 to either pole, Si;  
 direct conduc-  
 tion by, 209;  
 electrolysis of,  
 122,  
 131, 166 *et seq.*—  
 intensity neces-  
 sary for, 204;  
 electro-chemical  
 decomposition  
 against, 61, 74
- Zinc in voltaic  
 battery, 214, 215